AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A system for configuring an automatic test system ~~to produce a plurality of clocks from a reference clock via dividers coupled to the reference clock~~, comprising:

an interface comprising ~~having a plurality of~~ inputs for specifying desired frequencies of ~~the plurality of~~ clocks and inputs for specifying timing characteristics of instruments of the automatic test system; ~~and~~

software, operative in response to the interface, for calculating values of dividers, for establishing the desired frequencies of the ~~plurality of~~ clocks; and

error checking code for comparing the specified timing characteristics of the instruments with stored data indicative of capabilities of the instruments.

2. (Currently Amended) A system as recited in claim 1, wherein the interface comprises ~~at least one~~ an input for specifying the frequency of at least one of the ~~plurality of~~ clocks as a function of at least one other of the ~~plurality of~~ clocks.

Claims 3 and 4 (Cancelled)

5. (Currently Amended) A system as recited in claim 1 [4], wherein the interface further includes a window for displaying error messages generated by the error checking code in response to the specified timing characteristics being incompatible with the capabilities of the instruments.

6. (Currently Amended) A system as recited in claim 1 ~~3~~, further comprising code for calculating the desired frequency of at least one of the ~~plurality of~~ clocks in response to the inputted timing characteristics of the instruments.

7. (Currently Amended) A system as recited in claim 1, wherein

the software produces output indicative of the calculated values of ~~said~~ the dividers, and

the interface further comprises a display of the calculated values of ~~said~~ the dividers.

8. (Currently Amended) A system as recited in claim 7, wherein the interface further comprises a display of prime factors of the calculated values of ~~said~~ the dividers.

9. (Currently Amended) A system as recited in claim 1, wherein the interface further comprises inputs for assigning different ones of the ~~plurality of~~ clocks to groups within which coherency must be maintained.

10. (Currently Amended) A method for configuring an automatic test system ~~to produce a plurality of clocks from a reference clock~~, comprising:

receiving a plurality of inputs specifying desired frequencies ~~of the plurality~~ of clocks; ~~and~~

calculating, in response to the received inputs, values of dividers coupled to the reference clock, for establishing the desired frequencies of the ~~plurality of~~ clocks;

specifying timing characteristics of an instrument of the test system; and

comparing the specified timing characteristics for the instrument with stored data indicative of capabilities of the instrument.

11. (Currently Amended) A method as recited in claim 10, further comprising specifying the desired frequency of at least one of the ~~plurality of~~ clocks as a function of at least one other of the ~~plurality of~~ clocks.

Claim 12 (Cancelled).

13. (Original) A method as recited in claim 10, wherein the timing characteristics include any of an instrument's sampling rate, frequency of interest, frequency divider values, frequency multiplier values, and frequency resolution.

14. (Currently Amended) A method as recited in claim 13, wherein ~~the inputs for~~ specifying timing characteristics ~~include~~ comprises specifying ~~at least one input for specifying~~ an instrument's sampling rate as a function of a timing characteristic of another instrument.

15. (Currently Amended) A method as recited in claim 13, wherein ~~the inputs for~~ specifying timing characteristics ~~include~~ comprises specifying ~~at least one input for specifying~~ an instrument's frequency of interest as a function of a timing characteristic of another instrument.

16. (Currently Amended) A method as recited in claim 13, wherein ~~the inputs for~~ specifying timing characteristics ~~include~~ comprises specifying ~~at least one input for specifying~~ an instrument's frequency resolution as a function of a timing characteristic of another instrument.

Claim 17 (Cancelled)

18. (Currently Amended) A method as recited in claim 10 ~~17~~, further comprising ~~including~~ displaying error messages generated by the comparing step, in response to the specified timing characteristics being incompatible with the capabilities of the instrument.

19. (Currently Amended) A method as recited in claim 13, further comprising calculating a desired clock frequency for driving an instrument based upon the ~~inputted~~ timing characteristics for ~~that~~ the instrument.

20. (Currently Amended) A method as recited in claim 10, further comprising displaying output indicative of calculated values of ~~said~~ the dividers.

21. (Currently Amended) A method as recited in claim 20, further comprising displaying prime factors of the calculated values of ~~said~~ the dividers.

22. (Original) A method as recited in claim 10, wherein desired clock frequencies are related by ratios that ensure coherent testing, and further comprising modifying the desired clock frequencies to precisely maintain the ratios, in instances wherein the test system cannot meet the inputted ratios at the desired frequencies.

23. (Currently Amended) A method as recited in claim 22, further comprising:

assigning different ones of the ~~plurality of~~ clocks to groups, and

modifying the desired frequencies of clocks assigned to the same group to precisely maintain the inputted ratios between clock frequencies in the same group.

24. (Currently Amended) A method as recited in claim 10, wherein receiving comprises ~~the receiving step includes~~ receiving an input for each of the desired frequencies in the form of a rational numerator divided by a rational denominator.

25. (Currently Amended) A method as recited in claim 10, further comprising generating test program code for programming the ~~plurality of~~ dividers within the automatic test system to assume the calculated values.

26. (Original) A method as recited in claim 25, further comprising storing the test program code in a test program for running on the automatic test system.

Claims 27 to 29. (Cancelled)

30. (New) A system for configuring an automatic test system, comprising:

an interface comprising inputs for specifying desired frequencies of clocks and inputs for specifying timing characteristics of instruments of the automatic test system;

software, operative in response to the interface, for calculating values of dividers, for establishing the desired frequencies of the clocks; and

code for calculating the desired frequency of at least one of the clocks in response to the inputted timing characteristics of the instruments

31. (New) The system of claim 30 wherein the interface comprises an input for specifying the frequency of at least one of the clocks as a function of at least one other of the clocks.

32. (New) A system as recited in claim 30 wherein the interface further comprises inputs for assigning different ones of the clocks to groups within which coherency must be maintained.

33. (New) A system for configuring an automatic test system, comprising:

an interface comprising inputs for specifying desired frequencies of clocks and inputs for specifying timing characteristics of instruments of the automatic test system;

software, operative in response to the interface, for calculating values of dividers, for establishing the desired frequencies of the clocks, the software producing output indicative of the calculated values of the dividers,

wherein the interface further comprises a display of the calculated values of the dividers and a display of prime factors of the calculated values of the dividers.

34. (New) The system of claim 33 wherein the interface comprises an input for specifying the frequency of at least one of the clocks as a function of at least one other of the clocks.

35. (New) A system as recited in claim 33, wherein the interface further comprises inputs for assigning different ones of the clocks to groups within which coherency must be maintained.